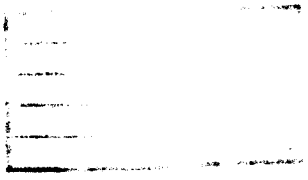

COMMUNITY HEALTH WORK 1987

FUTURE MEDICAL DOCTORS - AN ORAL HEALTH SURVEY

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NO. 30

CONTENT

CHAPTER 1

INTRODUCTION

BACKGROUND

> `...oral health is an integral part of general health; no individual can be considered fully healthy while there is active disease present in the mouth.'
>
> `Medical practitioners do not always exhibit a consciousness of the oral health needs of their patients. Dentistry as a profession can work with physicians to ensure that they include questions on dental attendance in their patient histories, are generally aware of the problems of oral disease, and are able to recognise at least obvious oral disease.'
>
> -Federation Dentaire Internationale
> Commission on Oral Health,
> Research and Epidemiology (CORE)
> Final Report 1983

There is a problem of a lack of mutual understanding and communication between the medical and dental professions. Hong Kong is no exception. Hence, it is worthwhile that the two closely related professions can cooperate. We are therefore taking an initiative in promoting the dental awareness of future medical doctors in general practice for the sake of the total well-being of a patient. Through medical practitioners, who are both community leaders and professional health personnel, oral health in the general public will be promoted.

TARGET GROUP

The target group of this project was undergraduate medical students. There are two universities in Hong Kong with medical faculties offering an undergraduate course in medicine. One is the University of Hong Kong with a 100 year history while the younger one is the Chinese University of Hong Kong.

During their 5 years of medical study, the content of the curriculum mainly concerns the general health of a patient. However, it contains a very limited oral health component.

Medical students are future medical practitioners and the medical profession is highly respected and has a high social status in the community of Hong Kong. Medical services in Hong Kong are well established and the general public has easy access to medical doctors. Therefore, medical doctors come into contact with all levels of the public. Together with their persuasive image, they make up a very important group of health educators.

The target group chosen in this project was the medical students of the Chinese University of Hong Kong which is located in Sha Tin, New Territories. It is meaningful to co-operate with the students of this university because we can foster social relationships while increasing academic interflow and communication between the Chinese University and the University of Hong Kong.

The Faculty of Medicine of the Chinese University of Hong Kong is a young faculty with a history of only 7 years. We believe this newly developed faculty has a great capacity to accept new suggestions and ideas.

The medical students are distributed in two locations for daily training. Pre-clinical students have their lessons in the main campus while clinical students have lessons in the Prince of Wales Hospital.

OUR PROJECT

During the first few meetings, there were different ideas among our group members. However, there was no difficulty in deciding the final topic of our project.

The dental profession should take the initiative to communicate with the medical profession. Dentistry as a profession can work with physicians to ensure that they include questions on dental attendance in their patient history, and when advising their patients, should be able to encourage dental attendance as an aspect of health care. We are now taking a first step in establishing a foundation for inter-professional co-operation in the health care of the general public.

Oral health education is one of the main facets of our project. Apart from providing information to the medical students according to their educational level, we also attempted to motivate them towards behavioural change. In order to do the best we could within the time limitations of our two tight curricula, we had meetings together and worked out the timing of the project. We used the peer group teaching method. Medical students who joined the education programme would take an active participation in delivering the messages of dental health to their colleagues.

It is worthwhile to know the profile of the oral health status, knowledge, beliefs and attitudes towards oral health of our target group.

Another aspect of our project was to give the medical students a better picture of the dental field and to furnish them with knowledge and the techniques of dental care so that they can also be proficient dental health educators of the general public.

Dental health education is very difficult to provide in one or two occasions. Proper information can be delivered easily but the bringing about of a change in behaviour is a more difficult issue.

OBJECTIVES

1. To assess the
   (a) oral health status,
   (b) knowledge, beliefs and attitudes of medical students towards oral health.

2. To improve the
   (a) knowledge and awareness of medical students towards oral health;
   (b) co-operation between medical and dental students.

3. To evaluate the
   (a) oral health status,
   (b) knowledge, beliefs and attitudes of medical students towards oral health after the programme.

4. To compare the oral health status of medical and dental students.

CHAPTER 2

MATERIAL AND METHODS

Before starting our formal communication with the medical students of the Chinese University, we first contacted our friends who were studying there so as to know more about the number of students, the schedule of lectures, their interests in our project and the way to make a formal contact with them. Thereafter, we wrote to the Head of Department of Community Medicine of the Chinese University, Professor S.P.B. Donnan, and their Medical Society giving a brief introduction of our project (see Appendices 1 & 2). Encouragingly, we received a favourable reply immediately (see Appendix 3).

The medical students actively participated in planning our project. A few meetings were then held with the representatives of their Medical Society to discuss the contents of our project.

Through these discussions, we obtained a better understanding of their curriculum and interests. This helped us a lot in planning the programme. In fact, they requested us to include an introduction to some of the common oral diseases and the procedures of a simple oral examination in the education programme. On the other hand, they helped us to distribute and collect the questionnaires, and arranged the appropriate venues for us to carry out the dental examination. They became involved actively in an exhibition held at their campus. Moreover, they helped us to promote our programme among their students.

Since both of our curricula schedules are very tight, we had to concentrate our dental education programme into only a few occasions. Also due to the time constraints, we were only able to hold an exhibition at the Chinese University campus.

Hence, we decided upon the strategies for achieving the objectives which included questionnaires, dental examinations, and a half-day education programme at the Prince Philip Dental Hospital and an exhibition in the Chinese University.

The entire project was conducted in 4 stages:

Stage 1 - Baseline Data Collection
1. Questionnaire
2. Dental Examination

Stage 2 - Dental Health Education Programme
1. Talk and slides show
2. Demonstration
3. Small group discussion
4. Hospital tour
5. Exhibition for medical students held at the Chinese University

Stage 3 - Evaluation
1. Review Questionnaire
2. Review Dental examination

Stage 4 - Data processing and analysis

In order to fulfill the objectives, we set up the project outline as follows:

February	Information collection and preparation
25.2.87	Calibration of dental clinical examiners
27.2.87	Dental examination of clinical dental students
2.3.87	Dental examination of preclinical dental students
4.3.87	Questionnaire for medical students
21.3.87 (see Appendix 4)	Half day programme -talk / slides show -dental examination -hospital tour -demonstration of OHI, exhibition materials and intra-oral examination -small group discussions
25.3.87	Exhibition in CU
10.4.87	Review dental examination for medical students
27.7.87	Questionnaire for (clinical) medical students
end of August	Review questionnaire for the participants of half-day programme
September	Data processing and analysis

STAGE 1 - BASELINE DATA COLLECTION

QUESTIONNAIRE The content of the questionnaire was based on that used in the Hong Kong Survey of Adult Oral Health 1984. Selected questions were judiciously modified according to the educational level of our target group. It contained only 15

questions in English which were divided into 5 sections, namely personal information, sources of oral health knowledge, oral health knowledge, oral health practices, attitudes and beliefs towards oral health.

A pilot survey was conducted among a group of medical students of the University of Hong Kong before distributing 500 copies to the Chinese University.

The format was a self-completed type composed of multiple choice questions and 1 open ended question.

DENTAL EXAMINATION Due to restricted time and resources, volunteer subjects were recruited as samples. The subjects were divided into 3 groups: 25 pre-clinical students; 29 clinical dental students and 22 medical students of the Chinese University.

The oral health status of the medical students including oral hygiene status, gingival health and caries experience were assessed by the following indices:-

Plaque index - Silness and Loe (1964) (see Appendix 6)
Gingival index - Loe and Silness (1963) (see Appendix 6)
DMFT - WHO (1977) (see Appendix 6)

Examinations were carried out by 2 members of our group in the Prince Philip Dental Hospital. The equipment used included a standard light source, mirror and periodontal probe (Williams 14W). It was a visual examination in which teeth were not dried during the examination process.

In order to minimise bias and error, a calibration exercise was conducted and duplicate examinations for all subjects were conducted by the two examiners. The scores were cross-checked to monitor the inter-examiner variation.

STAGE 2 - ORAL HEALTH EDUCATION PROGRAMME

In order to achieve the objective of improving the oral health knowledge and awareness of medical students, a half-day programme conducted in the Prince Philip Dental Hospital was organised and was followed by an exhibition at the Chinese University.

TALK/SLIDES PRESENTATION A 40 minute slide presentation was given to the group of volunteer medical students covering the following topics: (1) an outline of the facilities of the Prince Philip Dental Hospital and the curriculum of the Bachelor of Dental Surgery degree, (2) common dental diseases (ie. dental caries and periodontal disease) and (3) common oral pathological lesions.

DEMONSTRATION An oral hygiene kit was given to each participant. The proper oral hygiene techniques including brushing methods and flossing techniques were demonstrated on models, followed by practising in their own mouths under supervision.

In order to reinforce their knowledge of oral health and the recognition of common dental diseases, an intra-oral examination simulating the situation of a medical doctor was demonstrated. We used a tongue spatula with a torch light for illumination in examining a subject seated in an upright position. The subjects were taught how to recognise missing teeth, caries, periodontal disease, calculus, restorations and other interesting oral signs. Each participant practised examining each other while intra oral findings were charted (see Appendix 7).

Exhibition board materials which would be displayed in the Chinese University were explained to the participants so that they could have a good understanding of how to demonstrate to their fellow colleagues at the exhibition.

SMALL GROUP DISCUSSION After the activities described above, discussions were held in seminar rooms where groups of medical students could raise questions about the education programme. An active discussion was then led by members of our group on various aspects: (1) dental services in Hong Kong (including both registered and unregistered dentists), (2) the dental team (including the role and training of the auxillary personnel such as dental surgery assistant, hygienists, technicians and dental therapists), (3) medical problems in relation to dentistry, (4) findings of the preliminary questionnaire. Any misbeliefs and wrong concepts concerning their oral health knowledge were raised and discussed.

HOSPITAL TOUR As a complement to the programme, a tour around the Prince Philip Dental Hospital was arranged so that a better understanding of the field of dentistry might be developed. The tour included (1) the Oral Radiology Unit (introducing radiographic techniques and displaying radiographs), (2) the Technology laboratory, (explaining different fields of dentistry with the help of models), and (3) other areas of the building.

ORAL HEALTH EXHIBITION As a second part of the education programme, an oral health exhibition was held at the campus of the Chinese University with the active co-operation of the 18 medical students who participated in the first part of the education programme.

Common oral diseases, caries, periodontal disease, problems of missing teeth, impacted wisdom teeth, and oral hygiene instructions were illustrated. The demonstrators gave instructions on oral hygiene techniques using models. Proper brushing and flossing techniques were also shown.

Intra-oral examinations that were taught during the first part of the programme and were practised under supervision among the medical students so that they could apply and reinforce what they had learned.

STAGE 3 - EVALUATION

REVIEW QUESTIONNAIRE Review questionnaires for 16 participants of the education programme were completed so as to assess any

improvement in oral health knowledge, beliefs and attitudes towards oral health after the programme.

This review questionnaire contained selected questions from the one used at the baseline. Specifically, questions were selected concerning oral health knowledge, practices, beliefs, and attitudes towards oral health. They were completed by a telephone interview.

REVIEW DENTAL EXAMINATION A review dental examination for the participants of the education programme was conducted at the Chinese University. The same criteria as in the baseline examination were used, except this time, the caries experience (DMFT) was not recorded because a change was not expected within a short period. However, an inquiry was made about any dental treatment received during the time elapsed, and all positive answers were noted.

STAGE 4 - DATA PROCESSING AND ANALYSIS

Results of the questionnaires were processed by entering data in the Sperry Univac 1100 computer using the SPSS-X programme. The results were then analysed and findings were compared with those from the "Hong Kong Survey of Adult Oral Health 1984" concerning the age group 15-19 years and with future teachers in Hong Kong as reported in "Health Education for Future Teachers in 1985".

The clinical dental examination results were processed manually and the DMFT Index, Plaque Index and Gingival Index values were calculated.

CHAPTER 3

RESULTS/FINDINGS AND INTERPRETATION

PRELIMINARY QUESTIONNAIRE

Following the distribution of 500 questionnaires, 214 were completed. From the data analysis, the results of the preclinical and clinical medical students were found to be very similar. Hence, findings from the 214 respondents were combined.

Most of the respondents were 16-23 years of age (Table 2). Primary school teachers and the mass media were regarded by the respondents as the most important sources from which the general public should get information about oral hygiene and dental health (Table 5).

Nearly all of the respondents considered that oral health was `very important' or `important' to the general health of a patient (Table 7).

Over 60% of the respondents could cite the causes of dental diseases (Fig 1 & 2). However, approximately one-third regarded sugary food and calculus to be the causes of the gum problems and tooth decay respectively. Very few considered 'Chinese explanations' as a cause of tooth decay, but for gum disease, a significant proportion (23%) thought that there was an association.

The medical students had a better understanding towards the possibility of tooth loss arising from different dental problems (Fig 3), especially the role of gum disease, when compared with the level of understanding of the general public as found in the 1984 Hong Kong Survey of Adult Oral Health. But still, 78% chose `old age' as one of the causes of tooth loss.

Over half of the medical students could state the principal role of fluoride in caries prevention (Table 8).

Twenty-five percents of the respondents consumed herbal teas for gum problems (Table 9), showing a figure significantly higher than that of the other two problems. This factor, together with findings in Figure 1, further reflects this common belief.

The overall profile of the oral hygiene practice of the medical students conformed to that of the general public and the future teachers (Figure 4), though with some minor variations, that is, toothbrushing, mouthrinsing after eating are their common cleaning aids.

Over half of the medical students had been to their dentists within the past 12 months (Table 10) compared with 27% of subjects seen in the 1984 Hong Kong Survey. On the other hand, 17% have never visited any dentist before (Figure 5), giving as their main reasons `no problem before', `high cost', `time conflict' and `waiting time too long'.

Table 1 - Sex Distribution of Respondents

	Frequency	Percentage
Male	146	68
Female	68	32
Total	214	100

Table 2 - Age Distribution of Respondents

Age-group	Frequency	Percentage
16-19	112	52
20-23	91	42
24-27	11	6
Total	214	100

Table 3 - Place of Birth of Respondents

	Frequency	Percentage
Hong Kong	197	92
Elsewhere	17	8
Total	214	100

Table 4 - Year of study of Respondents

	Frequency	Percentage
Preclinical	137	64
Clinical	77	36
Total	214	100

Table 5 - Sources from which the respondents gained information about oral hygiene and dental health

	Percentage
Parents	63
Teachers in Primary School	75
Teachers in Secondary School	59
School dental services	23
Mass media	76
Medical doctors	36
Dental health personnel	33
Others	7

Table 6 - Sources, suggested by the respondents, from which the general public should get information about oral hygiene and dental health

	Percentage
Parents	63
Teachers in Primary School	75
Teachers in Secondary School	59
School dental services	23
Mass media	76
Medical doctors	36
Dental health personnel	33
Others	7

Table 7 - Importance of oral health is to general health of a patient

	Percentage
Very important	41
Important	58
Not important	1
Negligible	0

Table 8 - The role of fluoride in oral health

Answer	Percentage
Enamel rendered more resistant to tooth decay	55
Caries prevention due to its bactericidal effect	9
Caries prevention mainly for children only	3
Others	22
Don't Know	11

Table 9 - Consumption of cooling teas or Chinese herbal medicine to cure the following problems:

Problems	Percentage
"Sour" feeling in tooth	15
Toothache	12
Gum problems	25

Table 10 - Time since last dental visit

	Percentage	
	Respondents	Hong Kong Survey 1984 Age 15-19
0 - 6 months ago	31	17
7 -12 months ago	21	10
1 - 2 years ago	10	12
2 - 3 years ago	6	3
3 years ago	15	27
Never	17	31
Total	100	100

Table 11 - Importance of oral health to the general health of a patient (Frequency)

	Preliminary	Review
Very important	9	9
Important	7	7
Not important	0	0
Negligible	0	0

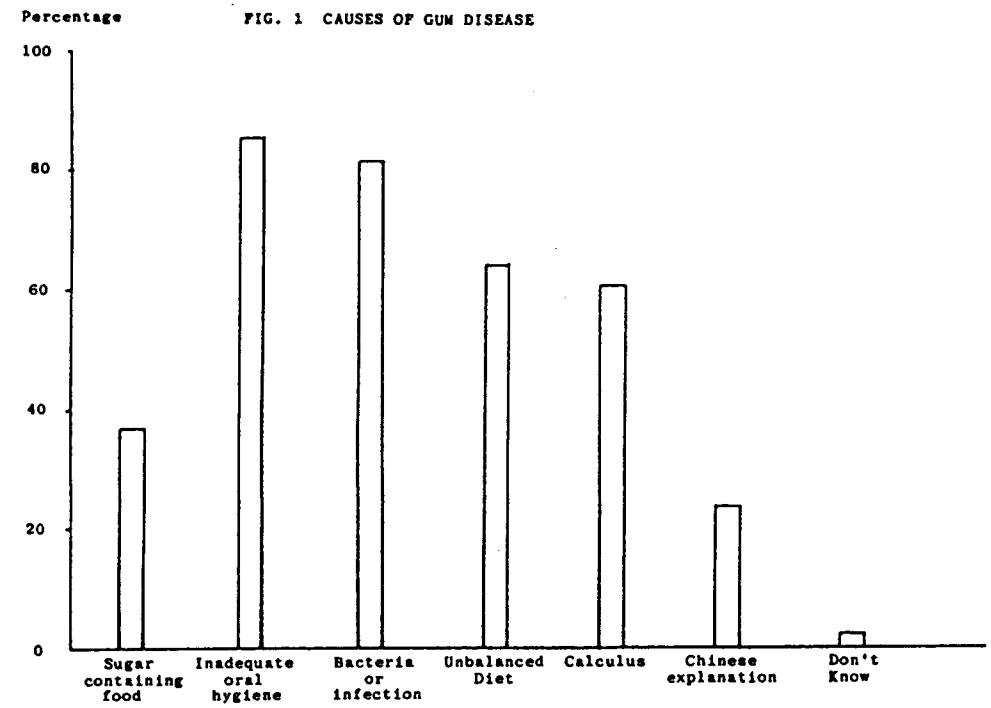


FIG. 1 CAUSES OF GUM DISEASE

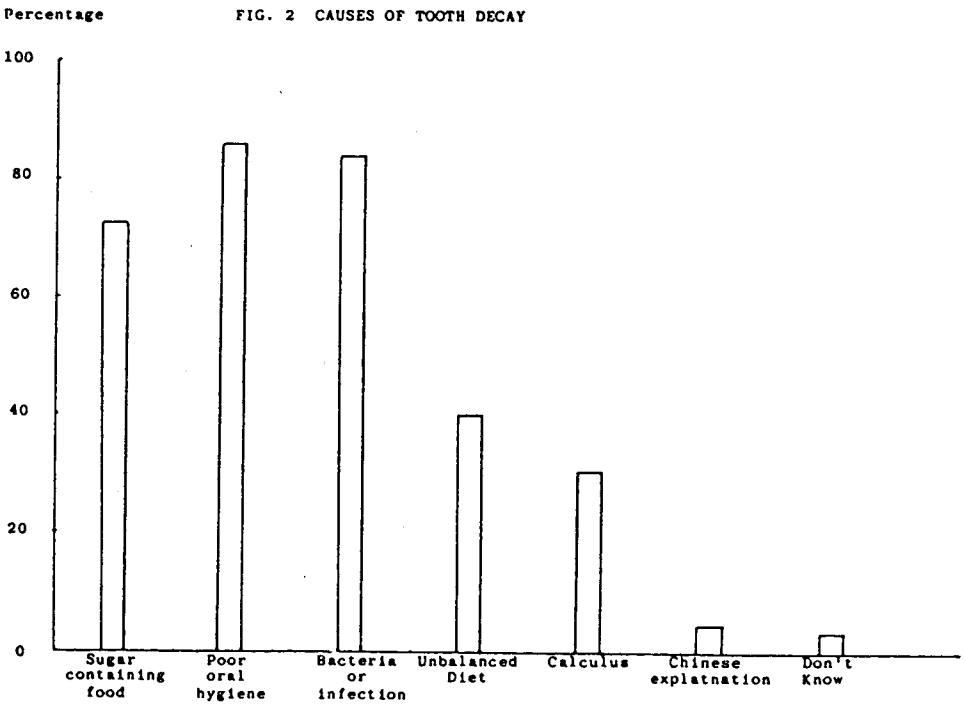


FIG. 2 CAUSES OF TOOTH DECAY

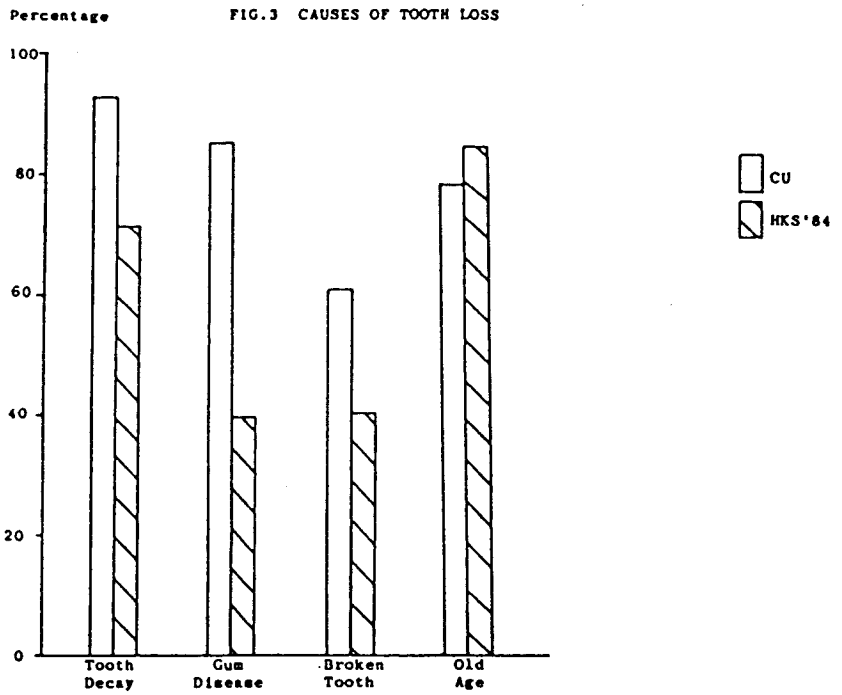


FIG.3 CAUSES OF TOOTH LOSS

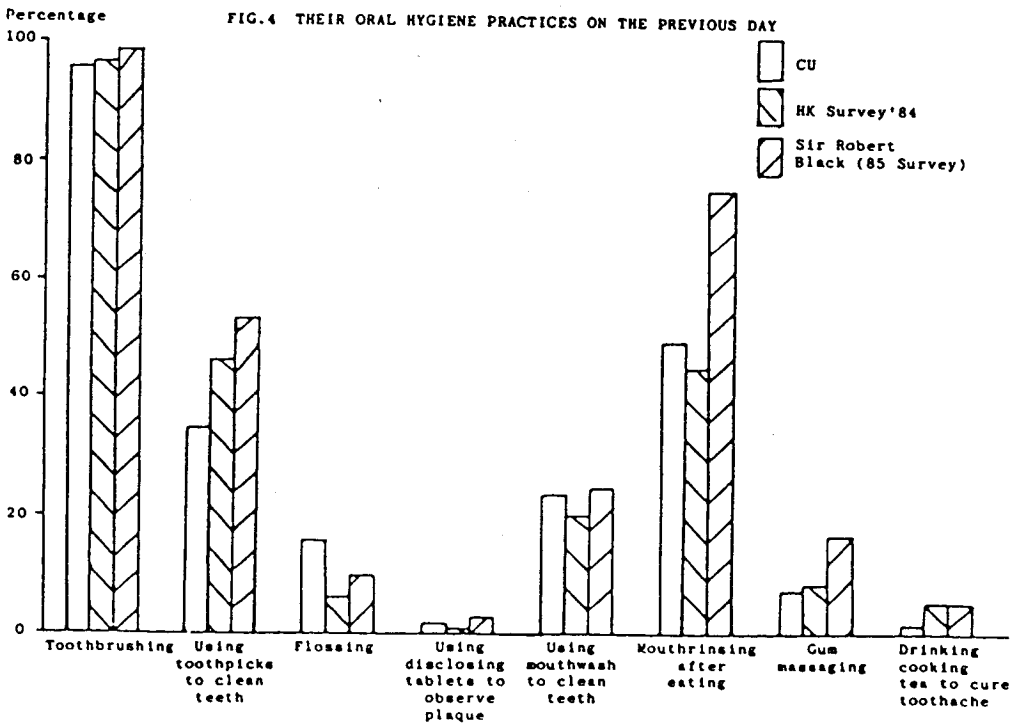
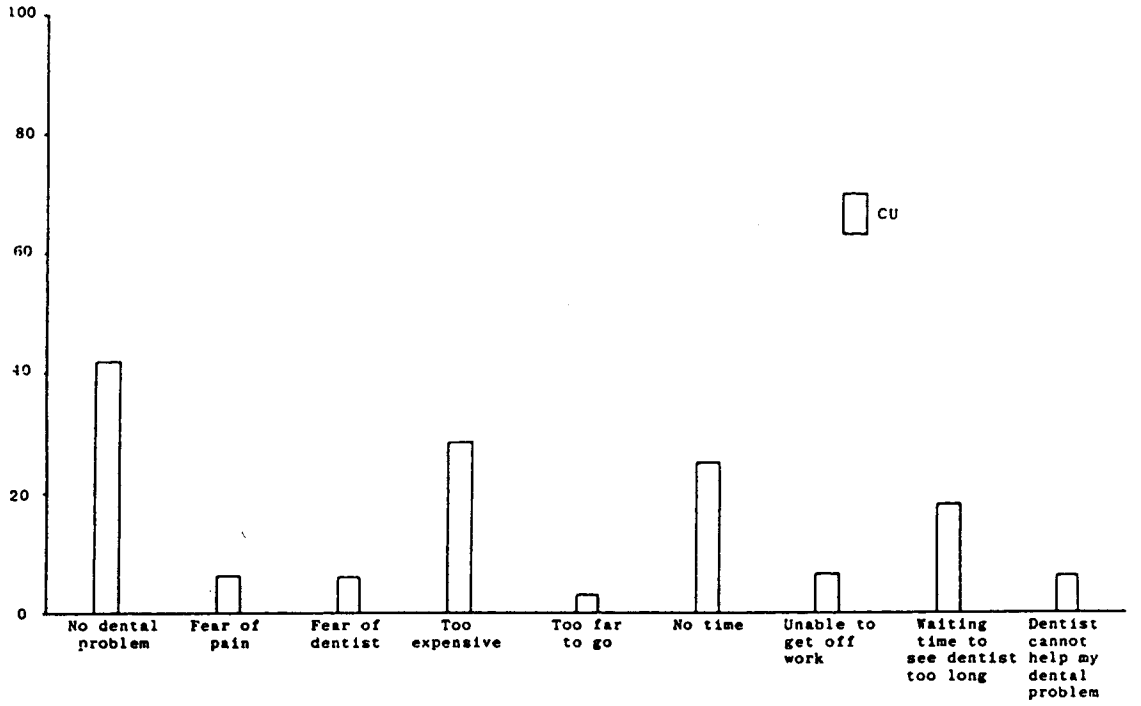


FIG.4 THEIR ORAL HYGIENE PRACTICES ON THE PREVIOUS DAY

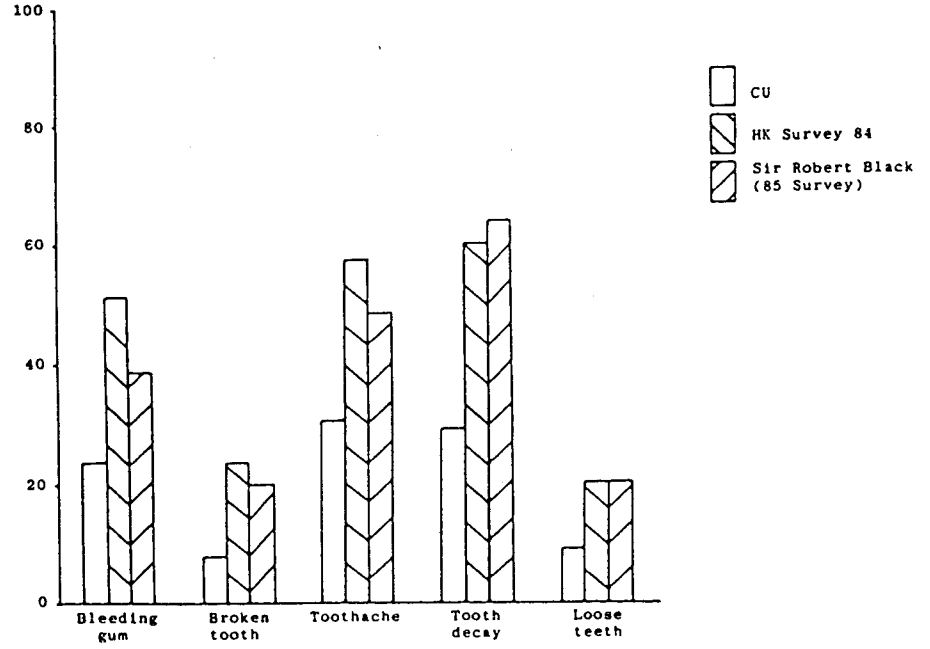
Percentage

FIG.5 REASONS FOR NOT VISITING A DENTIST



Percentage

FIG.6 LIKELY DENTAL PROBLEMS TO BE EXPECTED IN THE NEXT FIVE YEARS



Comparing with the past 2 studies, the medical students seemed to expect fewer dental problems in the next five years (Figure 6).

In general, the medical students were quite self-confident in the prevention of dental problems especially bleeding gums, broken teeth and loose teeth (greater than 50% for all, which is higher than that of the Hong Kong Survey of Adult Oral Health 1984, but similar to that of the 1985 Sir Robert Black Survey) (Figure 7).

It is apparent that many of the future doctors believed in the capabilities of dentists (Figure 8), showing a general pattern similar to those of the Hong Kong Survey of Adult Oral Health 1984 and Sir Robert Black Survey 1985.

REVIEW QUESTIONNAIRES

Another set of questionnaires were arranged to evaluate whether there was any change in their knowledge, attitudes and beliefs after taking part in the education programme. There were 16 respondents available and only selected questions were re-asked by phone.

In general, not much difference could be observed when comparing these results from those of preliminary questionnaires.

The perception of medical students concerning the importance of oral health to the general health of a patient remained unchanged in the review questionnaire (Table 11).

Regarding the knowledge of gum disease, there was apparently some improvement (Table 12).

The change concerning their knowledge on tooth decay was not significant (Table 13).

There was some improvement regarding their wrong belief that 'old age' was one of the causes of tooth loss.

Improvement could be observed concerning their knowledge on the role of fluoride in caries prevention (Table 15).

There was not any significant difference when comparing with the preliminary and the review data of oral health practices (Table 16).

Regarding their perception of dentists' ability (Table 19) and the likeliness of having dental problems within the next five years (Table 17), no significant difference could be concluded. But their perception of personal role in prevention of dental problems seemed to be enhanced slightly (Table 18).

DENTAL EXAMINATIONS

From Figures 9 and 10, the majority of the clinical dental students have a lower plaque and gingival indices than those of the pre-clinical dental students and medical students of Chinese University, with the latter two groups showing similar frequency

Table 12 - Causes of gum diseases (Frequency)

	Preliminary	Review
Sugar containing food	5	0
Inadequate oral hygiene	15	16
Bacteria or infection	15	16
Unbalanced diet	14	13
Calculus	7	5
Chinese explanation	4	0
Don't Know	0	0

Table 13 - Causes of tooth decay (Frequency)

	Preliminary	Review
Sugar containing food	11	9
Inadequate oral hygiene	15	16
Bacteria or infection	15	14
Unbalanced diet	8	9
Calculus	6	4
Chinese explanation	0	0
Don't Know	0	0

Table 14 - Causes of tooth loss (Frequency)

	Preliminary	Review
Tooth decay	14	15
Gum disease	16	16
Broken tooth	10	13
Old age	11	7

Table 15 - Role of fluoride in oral health (Frequency)

	Preliminary	Review
Enamel rendered more resistant to tooth decay	12	16
Caries prevention due to bactericidal effect	4	0
Blank	4	0

Table 16 - Oral health practices on the previous day (Frequency)

	Preliminary	Review
Toothbrushing	16	16
Using toothpicks to clean teeth	5	8
Dental flossing	0	0
Using disclosing tablets to observe plaque	0	0
Using mouthwash to clean teeth	2	2
Mouthrinsing after eating	10	11
Gum massaging	2	6
Drinking cooling tea to cure toothache	0	0

Table 17 - Likely dental problems to be expected in the next five years (Frequency)

	Preliminary	Review
Bleeding gums	4	4
Broken tooth	0	0
Toothache	4	5
Tooth decay	4	2
Loose teeth	2	2

Table 18 - Perceived own ability to prevent the following dental problems in the next five years (Frequency)

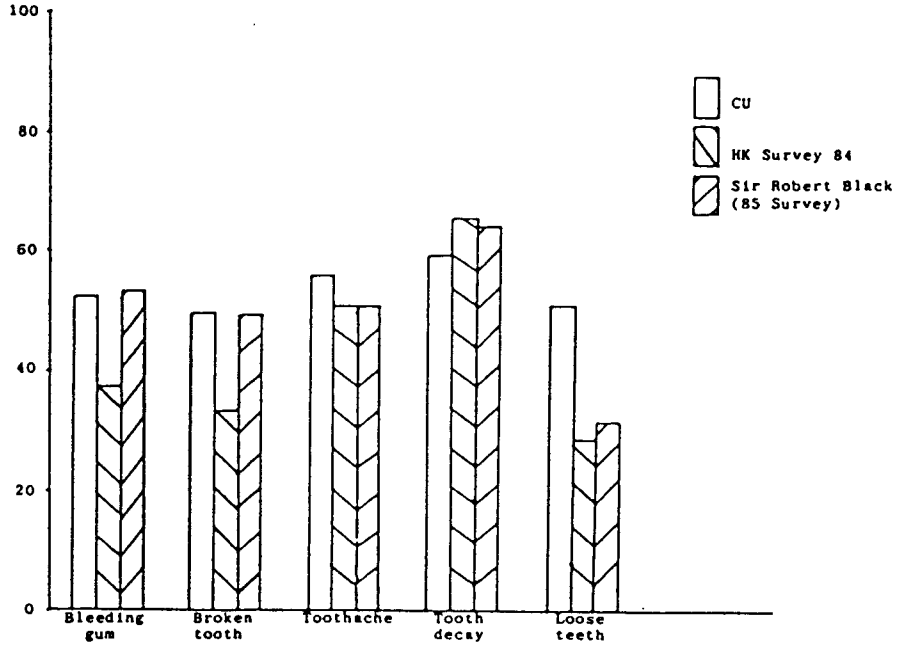
	Preliminary	Review
Bleeding gum	8	9
Broken teeth	8	11
Toothache	9	10
Tooth decay	11	12
Loose teeth	9	11

Table 19 - Perception of dentists' ability to treat given dental problems (Frequency)

	Preliminary	Review
Bleeding gums	8	10
Broken teeth	13	13
Toothache	15	12
Tooth decay	12	15
Loose teeth	9	12

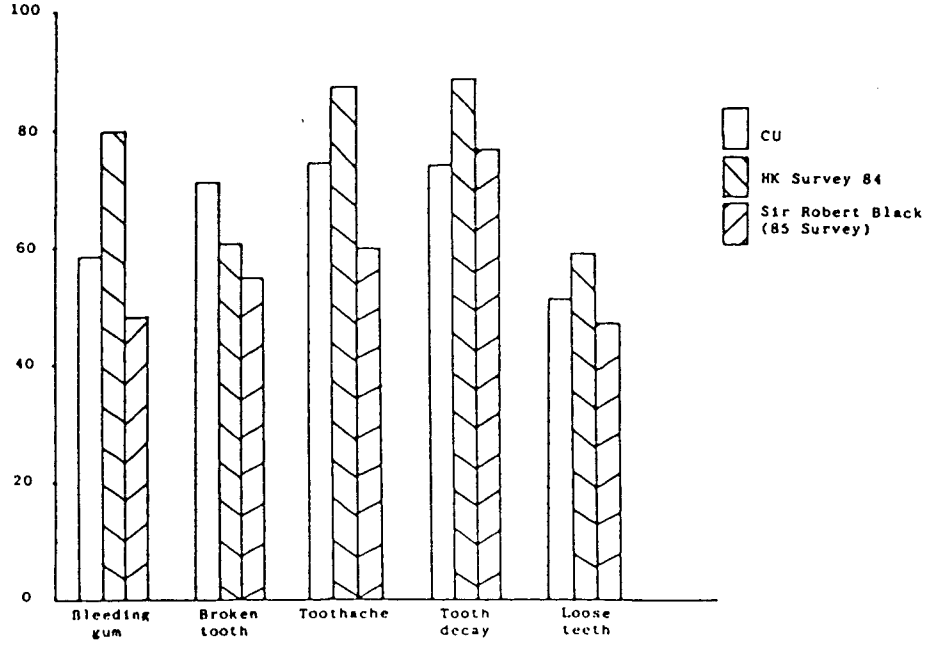
Percentage

FIG.7 PERCEPTION OF THEIR OWN ABILITY TO PREVENT DENTAL PROBLEMS



Percentage

FIG.8 PERCEPTION OF THE ABILITY OF DENTISTS TO TREAT DENTAL PROBLEMS



distribution patterns in the baseline value.

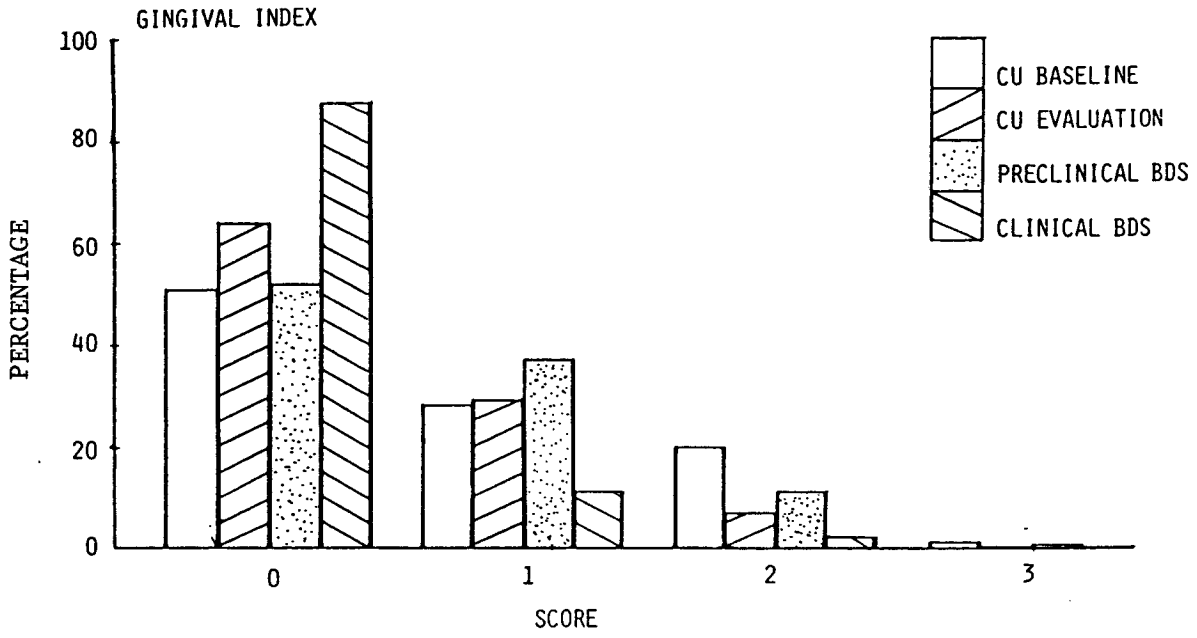
The frequency distribution pattern of the evaluation plaque and gingival indices of the medical students of the Chinese University shifted to lower values when compared with the baseline data. Hence, an improvement in oral hygiene status and gingival health were observed.

From Table 20, the mean DMFT value of both preclinical and clinical dental students were 3.4 and 2.3 respectively, which were higher than that of the medical students, 1.5.

Table 20 - Caries experience in mean DMFT index

	mean DMFT index
Pre-clinical dental students	3.4
Clinical dental students	2.3
Medical students	1.5

FIG. 9


GINGIVAL INDEX
100
80
60
40
20
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PERCENTAGE
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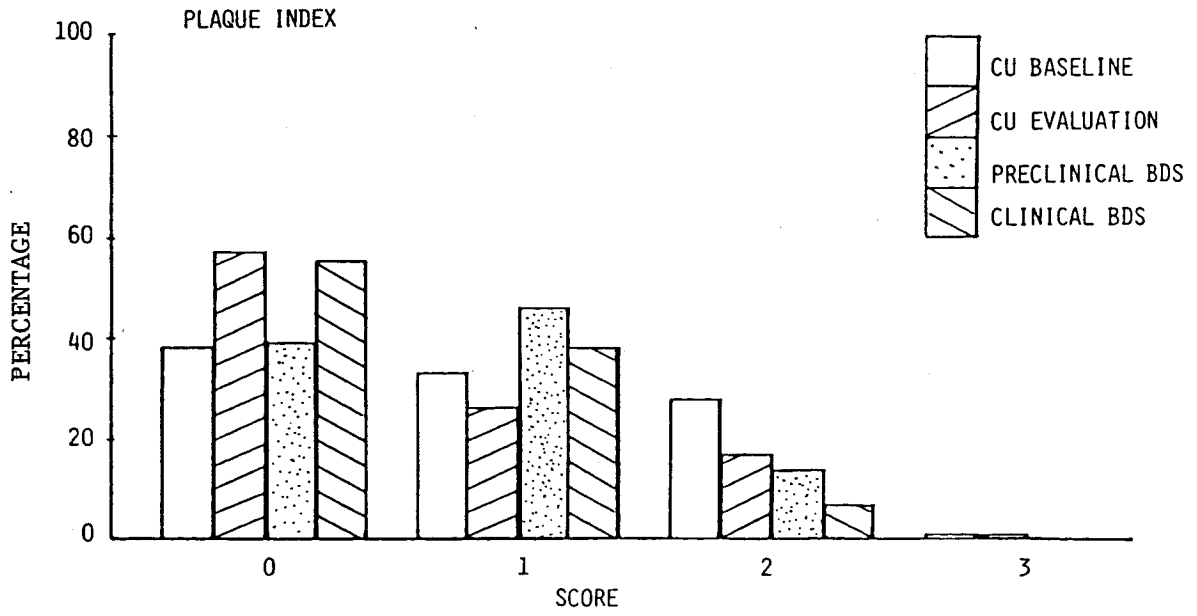
SCORE
CU BASELINE
CU EVALUATION
PRECLINICAL BDS
CLINICAL BDS

FIG. 10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CLINICAL BDS

CHAPTER 4

DISCUSSION

For comparative purposes, the questionnaire design was similar to that developed for the Hong Kong Survey of Adult Oral Health 1984. Several questions were changed from the open-ended type to multiple choice; the answers to the questions originating from the Hong Kong Survey of Adult Oral Health 1984. Moreover, the wordings of the questionnaire were redesigned according to the educational level of the medical students.

The questionnaires used in the survey were completed by the survey respondents themselves. Owing to timetabling problems, we could not actively participate in distributing and supervising the completion of the questionnaires. The clinical students were widely scattered within the Prince of Wales Hospital. As a result, the response from the clinical students was not as good as that of the pre-clinical students.

The review questionnaire, completed at the last stage of our project, was conducted as a person-to-person interview through the telephone. It would have been preferable to conduct both questionnaire interviews under the same conditions to avoid the introduction of bias.

The half-day programme was an overall success. The compact programme exposed the medical students to many aspects of dentistry including the basic dental knowledge, oral hygiene education and the simple intra-oral examination. The experience enabled them to carry out simple intra-oral examination on other medical students during the exhibition. On the whole, the medical students enthusiastically helped in demonstrating the exhibition.

ORAL HEALTH RELATED KNOWLEDGE, ATTITUDES, VALUES AND BEHAVIOUR

Nearly all medical students considered oral health "very important" or "important" to the general health of individuals. Over half of the medical students knew the causes of gum diseases, tooth decay, and tooth loss and they knew the role of fluoride in oral health. On the other hand, some medical students still believed in Chinese explanations as a causes of gum problems. Furthermore, 78 % of all respondents considered the old age was a cause of tooth loss. From these findings, it implies the medical students need more orientation to the understanding of the causes of periodontal disease and tooth loss.

According to the data of the present survey, over one half of the respondents visited a dentist during the past 12 months. This percentage was markedly higher than that of the 15-19 year-old shown in the Hong Kong Survey of Adult Oral Health 1984. This may reflect their greater degree of dental awareness. However, the greater availability of university dental services may be a

contributing factor. Regular oral hygiene measures commonly performed by the respondents were similar to those employed by the general public as reported in the Hong Kong Survey of Adult Oral Health 1984.

Generally speaking, when compared with the 15-19 year-old subjects of the Hong Kong Survey of Adult Oral Health 1984, the respondents seemed to expect fewer dental problems in the near future. They were more optimistic about their own capabilities to prevent dental caries, bleeding gums, and toothache. The difference may be explained by higher educational level and dental awareness of the respondents.

In view of the relatively small number of medical students having participated in the oral health education programme and the review questionnaire, the actual follow-up results may well be exaggerated. Nevertheless, they did show some improvement, especially regarding their knowledge about gum disease, and the value of fluoride in preventing dental caries. In addition, their perception of the personal role in the prevention of dental problems was also enhanced.

On the other hand, little difference was found in other aspects, such as their oral health practices and the knowledge about tooth decay. This unremarkable improvement may be due to the interplay of the following reasons: (1) their basic knowledge as shown in the preliminary results was already quite good, (2) owing to the problems of timetable conflict, the oral health education programme comprised two occasions only, and (3) the fact that each occasion might have been too compact regarding the quantity of information bombarded. Thus, it was unlikely to bring a tremendous improvement in oral health related knowledge, beliefs and behaviour in these circumstances. In fact, health education should be a long-term business, and constant motivation and reinforcement are essential.

ORAL HEALTH STATUS OF MEDICAL STUDENTS

At the baseline clinical examination, plaque, gingival and DMFT indices were employed to assess the oral health status of medical students. From the clinical findings, it can be shown that values of the plaque and gingival indices of the clinical dental students were confined to a lower range have lower plaque and gingival indices than those of the preclinical dental students and medical students of the Chinese University. The difference may be explained by better dental knowledge and longer exposure to dental health care for clinical dental students. Moreover, the better availability and accessibility of dental treatment to the clinical dental students may be an important contributing factor. When the medical students and the preclinical dental students were compared, their distribution patterns were nearly the same because of their similar exposure to dental health care. However, the larger DMFT value observed among clinical and pre-clinical dental students as compared to medical students may be due to two reasons. Firstly, the examination of decayed teeth as carried out according to simplified diagnostic techniques to enhance reproducibility and so inevitably, initial signs of

caries would not be detected. Secondly, since the availability of dental care to dental students is better, the majority of such lesions have already been restored.

An evaluation of the mean plaque index scores of the medical students at baseline and at evaluation indicates, a trend towards an increase in the percentage of sites scoring 0 and a decrease for scores 1 & 2. Similarly, a shift in scores from the higher to the lower range is evident for their gingival status. The improvement was most likely due to the impact of the oral health education programme, though it may be a short-term one.

Throughout the entire programme, the medical students participated actively and they gave many valuable opinions which were helpful to the smooth running of the project.

The meetings with student representatives during the planning stage of the oral health education programme gave us a good opportunity to improve mutual understanding between our professions.

The active participation and co-operation of those who joined the oral health education programme was encouraging. Even after the project, a meeting was held at the Chinese University where we jointly evaluated the programme.

CHAPTER 5

CONCLUSION

From the findings described, the following conclusion may be drawn:

1. After the oral health education programme, there was some improvement in knowledge, beliefs and attitudes of medical students health of medical students.

2. The oral hygiene status and gingival health of the medical students improved after the education programme.

3. It was found that the oral hygiene status and gingival health of the medical students were similar to those of pre-clinical dental students, whereas those of of clinical dental students was shown to be better.

CHAPTER 6

RECOMMENDATION

Due to the high accessibility of general public to medical doctors and their persuasive image, medical doctors are potentially an important group of oral health educators, provided that they have received adequate oral health knowledge in their training. Therefore, we suggest a short course in matters relating to oral health should be included in their curriculum, so that the future medical doctors will be more conscious of the oral needs of their patients.

The close co-operation between medical doctors can be encouraged by interflow between medical and dental students. Our effort of initiating close communications and understanding between us in our project should be maintained. More inter-faculty activities should be planned in the future to consolidate our relationship. During our programme, many conflicts in time tables of the two groups of students were encountered, thus, many difficulties arose. It is highly recommended that community health projects can be organised and practised jointly by the two faculties.

Post-graduate communication and collaboration should be maintained. The role of Hong Kong Medical Association and Hong Kong Dental Association in promoting this development is considered to be very important. Specific issues of common interest to the dental and other health profession should be developed in future so that close communication and mutual education between dentistry and the other health professions will benefit both the professions concerned as well as the public.

In our project, the improvement in oral health knowledge, attitudes and behaviour of medical students is a short-term one. In order to achieve a long-term success, the project should be continued with periodic reinforcement.

The project should also be conducted for medical students at the University of Hong Kong.

ACKNOWLEDGEMENT

We would like to express our sincere appreciation and gratitude to many staff and students for their support and contribution. Firstly, we would like to thank Dr. R.W. Evans and Mr. Kelvin Mak for their help, guidance and valuable advice. We would also like to thank Professor O.P. Lind and Dr. M.V. Morgan for their assistance and Dr. C.M. Lo for his help on the data processing.

We are particularly indebted to the Medical Society and the medical students of the Chinese University of Hong Kong for their enthusiastic participation which made our project a success.

Special thanks to various companies; Johnson & Johnson (HK) Ltd., the Gillette Company, the Lever Brothers China Ltd. for all their generous sponsorship which brightened our project.

We also want to record our thanks to our colleagues from the different years, the DSAs', Miss Selina Mo and the Photographic Unit who assisted us.

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University of Hong Kong
Faculty of Dentistry

Periodontology and Public Health
Prof W I R Davies

The Prince Philip Dental Hospital, Hospital Road, Hong Kong

5-8590

22nd January, 1987

Professor S.P.B. Donnan,
Department of Community Medicine,
The Chinese University of Hong Kong,
4th Floor, Lek Yuen Health Center,
Lek Yuen Estate, Shatin,
New Territories

Dear Professor Donnan,

A Dental Public Health Project for Medical Students, Chinese University of Hong Kong

We are a group of 4th year dental students from the Faculty of Dentistry, University of Hong Kong. As part of our programme in Dental Public Health, we organise and conduct a community health project during the fourth and final years of our course.

The purpose of this letter is for your orientation and to inform you of our intention to seek the co-operation of the medical students to participate in this project. (A copy of our letter addressed to the Medical Society is attached for your reference.)

Thank you for your attention.

Professor O.P. Lind sends his regards.

Yours sincerely,

Chan Kwok Keung,
Group 4.1

Dr. R.W. Evans,
Lecturer

University of Hong Kong
Faculty of Dentistry

Periodontology and Public Health
Prof W I R Davies

The Prince Philip Dental Hospital, Hospital Road, Hong Kong

5-8590

22nd January 1987

The Secretary,
Medical Society,
Faculty of Medicine,
The Chinese University of Hong Kong,
Shatin,
New Territories

Dear Colleagues,

A Dental Public Health Project for Medical Students, Chinese University of Hong Kong

We are a group of 4th year dental students from the Faculty of Dentistry, University of Hong Kong. As part of our programme in Dental Public Health, we organise and conduct a community health project during the fourth and final years of our course.

We wish to conduct a project concerning the knowledge, attitudes, and beliefs of medical students in relation to oral health. This will involve the carrying out of an epidemiological survey, and other activities (see our proposed programme, attached) in close collaboration with the colleagues of your society. An important outcome will be the development of both academic and non-academic relationships between our professions.

We sincerely hope that you will be interested in our proposal and we would like to discuss it further at a personal talk with your members. We shall have a lot of planning to do in relation to this project and therefore we look forward to hearing from you at your earliest convenience.

Yours sincerely,

Chan Kwok Keung,
Group 4.1

Dr. R.W. Evans,
Lecturer

c.c. Professor S.P.B. Donnan,
Head,
Department of Community Medicine,
The Chinese University of Hong Kong

APPENDIX 3

MEDICAL SOCIETY

THE CHINESE UNIVERSITY OF HONG KONG

香港中文大學
醫學院院會

SHATIN · NT · HONG KONG · TEL. 0-6984396 · CABLE ADDRESS · SINOVERSITY · 香港新界沙田・電話：〇・六九八四三九六

Reference: 870008/E

27th Jan, 1987.

Chan Kwok Keung,

Group 4.1
Faculty of Dentistry,
University of Hong Kong.

Dear Colleague,

In reply to your letter concerning the Dental Public Health project, we would like to express our sincere interest in the proposal. However, it would be most grateful if you would contact me(Hostel:0-6050698 Rm.229 Resident:3-7146978)so that we could get more detail information about the project. We are looking forward to hearing from you soon.

Yours sincerely,

Leung Wai Keung
Ext. Vice-chairman,
Medical Society,
CUHK.

APPENDIX 4

Half-day Programme for the Medical Students of C.U.H.K.
ON 21 March, 1987, Saturday

EVENTS	VENUE	TIME		POSITION OF GP. MEMBERS
		A	B	
Reception in C.U.	Main Campus of C.U.	12:30p.m. 1:00p.m.		Shirley & Gerald
Introduction and Talk	LT1	2:00-2:30p.m.		Lisa Philip & Jerome
Dental Check-up & Oral Exam. O.H.I.	Surgerys 1&2 & Clinic 1&2	3:30-4:30p.m.	2:30-3:30p.m.	Examiners: Patrick & Philip Runner: Kevin Tutors: Lisa Robert Jerome & Trombone
Hospital Tour		2:30-3:30p.m.	3:30-4:30p.m.	Gp.A PIC: Gerald Gp.B PIC: Shirley
		A1 A2	B1 B2	
	ORU	1 4	1 4	
	DTU	2 3	2 3	
	Library	3 2	3 2	
	Student Common Room	4 1	4 1	
Refreshment & Showing of Exhibition Materials	Canteen	4:30-5:00p.m.		Robert
OHI	Clinic 1	5:00-5:15p.m.		Gp.A1: Gerald & Trombone Gp.A2: Philip & Jerome Gp.B1: Shirley & Kevin Gp B2: Lisa & Patrick and Robert
Discussion	Seminar Rooms: 3B06 3B10 3B19 3B45	5:15-6:00p.m.		

4 DSA's be needed in Dental Check-up , Refreshment and OHI Sessions.

University of Hong Kong
Faculty of Dentistry

Periodontology and Public Health
Prof W I R Davies

The Prince Philip Dental Hospital, Hospital Road, Hong Kong

Dear Medical Students,

We are a group of fourth year dental students from the Faculty of Dentistry, University of Hong Kong. A Dental Public Health Project is being conducted concerning the knowledge, attitudes, and beliefs of medical students in relation to oral health.

As part of our project, we would like you to complete this questionnaire.

Thank you for your kind co-operation!

Instructions:

1. Fill in your personal information in Section I.
2. Tick the option(s) wherever appropriate in Section II, III, IV & V.
3. Please return this questionnaire to us.

No: 564

4.1 PUBLIC HEALTH PROJECT QUESTIONNAIRE

I Identification

1. Name: _____ Sex: _____ Age: _____

   Tel: _____

   Address: _____

   _____

   Place of Birth: Hong Kong _____

   Elsewhere _____

2. Which year are you studying in your medical course? Yr _____

II Source of Oral Health Knowledge

3. From what source did you get information about oral hygiene and dental health? (more than 1 choice is allowed)

   Parents _____

   Teachers in Primary school _____

   Teachers in Secondary school _____

   School dental services _____

   Mass media _____

   Medical doctors _____

   Dental health personnel _____

   Others (please specify) _____

4. From what source should the general public get information about oral hygiene and dental health?
(more than 1 choice is allowed)

Parents _____

Teachers in Primary school _____

Teachers in Secondary school _____

School dental services _____

Mass media _____

Medical doctors _____

Dental health personnel _____

Others (please specify) _____

*5. How important do you think oral health is to general health of a patient? (choose 1 option only)

Very important _____

Important _____

Not important _____

Negligible _____

III Oral Health Knowledge

*6. What do you think causes gum disease:
(more than 1 choice is allowed)

Sugar containing food _____

Inadequate oral hygiene _____

Bacteria/Infection _____

Unbalanced diet _____

Calculus (牙石) _____

Chinese explanation (熱氣) _____

Others (please specify) _____

Don't Know _____

*7. What do you think causes tooth decay:
(more than 1 choice is allowed)

Sugar containing food _____

Inadequate oral hygiene _____

Bacteria/Infection _____

Unbalanced diet _____

Calculus(牙石) _____

Chinese explanation (熱氣) _____

Others (please specify) _____

Don't Know _____

*8. What causes tooth loss: (Please tick 1 option for each item)

	Yes	No	Don't Know
1. Tooth decay	_____	_____	_____
2. Gum disease	_____	_____	_____
3. Broken tooth	_____	_____	_____
4. Old age	_____	_____	_____
5. Others (please specify)	_____		

*9. What is the role of fluoride in oral health?

_____

_____

IV Oral Health Practices

10. Do you drink cooling teas or consume Chinese herbal medicine to cure:

	Yes	No	Don't Know
"sour" feeling in tooth	_____	_____	_____
Toothache	_____	_____	_____
Gum problems (e.g. inflammation)	_____	_____	_____

*11. Which of the following did you do yesterday:

	Yes	No	Don't Know
used toothbrush to clean teeth	_____	_____	_____
used toothpicks to remove teeth	_____	_____	_____
used dental floss (牙線)	_____	_____	_____
used disclosing tablet to observe plaque (牙垢)	_____	_____	_____
used mouthwash to clean teeth	_____	_____	_____
rinsed mouth after eating	_____	_____	_____
massaged gum	_____	_____	_____
drank cooling tea to cure toothache	_____	_____	_____

12. Please indicate when you last visited a dentist:

a. _____(month) _____(year) (continue to Q13)

b. I have never visited a dentist _____
(continue to * question)

* Which reasons below explain why you have never visited a dentist?

	Yes	No	Don't Know
I have no dental problem	_____	_____	_____
I am afraid of the pain	_____	_____	_____
I am afraid of the dentist	_____	_____	_____
It is too expensive	_____	_____	_____
It is too far to go	_____	_____	_____
I have no time	_____	_____	_____
I am unable to get off work	_____	_____	_____
Waiting time to see dentist is too long	_____	_____	_____
A dentist cannot help my dental problems	_____	_____	_____

Other reasons (please specify) _____

V Oral Health Attitudes and Beliefs

*13. During the next 5 years, do you think you will get:

	Likely	Not Likely	Don't Know
Bleeding gums	_____	_____	_____
Broken tooth	_____	_____	_____
Toothache	_____	_____	_____
Tooth decay	_____	_____	_____
Loose teeth	_____	_____	_____

*14. During the next 5 years, do you think you can do much to prevent:

	Much	Not Much	Don't Know
Bleeding gums	_____	_____	_____
Broken tooth	_____	_____	_____
Toothache	_____	_____	_____
Tooth decay	_____	_____	_____
Loose teeth	_____	_____	_____

*15. Do you think a dentist can successfully treat:

	Much	Not Much	Don't Know
Bleeding gums	_____	_____	_____
Broken tooth	_____	_____	_____
Toothache	_____	_____	_____
Tooth decay	_____	_____	_____
Loose teeth	_____	_____	_____

* Selected questions in the review questionnaires.

- THE END -

APPENDIX 6

No. _____

DENTAL PUBLIC HEALTH PROJECT

GROUP 4.1

Name: _____ Sex/Age: _____

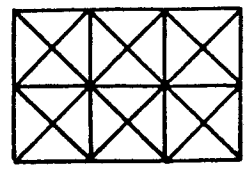
Year: _____

Plaque and Gingival Index

(16,17) 11 (26,27)

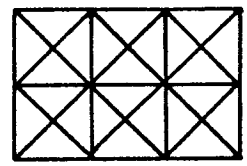
Plaque index

Gingival index



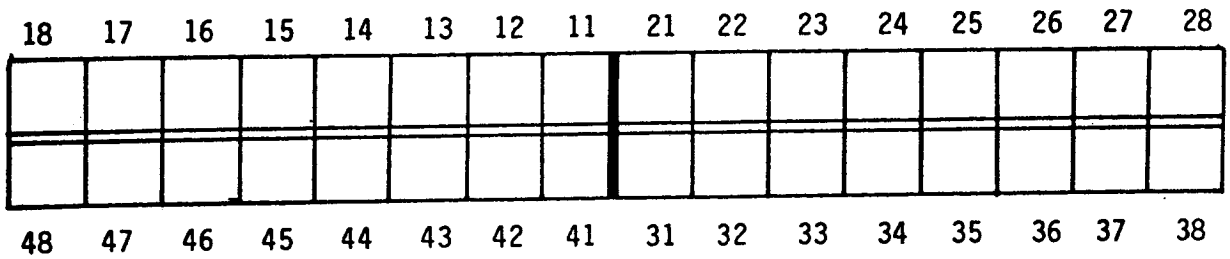
Plaque index

Gingival index



(46,47) 31 (36,37)

DMFT Index



Criteria

Plaque Index

0 = No plaque in the gingival area.

1 = A film of plaque adhering to the free gingival margin and adjacent area of the tooth. The plaque may only be recognized by running a probe across the tooth surface.

2 = Moderate accumulation of soft deposits within the gingival pocket, on the gingival margin and/or adjacent tooth surface, which can be seen by the naked eye.

3 = Abundance of soft matter within the gingival pocket and/or on the gingival margin and adjacent tooth surface.

Gingival Index

0 = Normal gingiva.

1 = Mild inflammation - slight change in colour, slight oedema. No bleeding on probing.

2 = Moderate inflammation - redness, oedema and glazing. Bleeding on probing.

3 = Severe inflammation - marked redness and oedema. Ulceration. Tendency to spontaneous bleeding.

/

DMFT Index

D = Obvious cavitation - where any doubt exists caries should not be recorded.

M = Missing due to caries.

(8 = Missing due to other reasons.)

F = Filling - where any obvious recurrent exist should be recorded as decayed D.

S = Sound tooth.

APPENDIX 7

INTRA-ORAL EXAMINATION CHART